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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,743	08/28/2001	Takeyuki Kawase	33906	5154

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EXAMINER

TRINH, MINH N

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

N.K

Office Action Summary	Application No. 09/940,743	Applicant(s) KAWASE ET AL.	
	Examiner Minh Trinh	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 12-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I claims 1-11 in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 12-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

An Office Action on the merits of claims 1-11 follows.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Method For Mounting Electronic Component".

4. The abstract of the disclosure is objected to because the scope of it is a device, which does not describe sufficiently the claimed method invention. Appropriate correction required. See MPEP § 608.01(b).

Claim Objections

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5. Claims 1 and 2 are objected to because of the following:

a) "A parts" (claim 1, line 1) should be changed to: --Electronic parts--. For clarification purpose.

b) "A" (claim 2, line 1) should be changed to: --The--, to reflect the proper dependent claim format. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following are examples:

a) It is not clear whether "a plurality of parts are store" (see claim 1, lines 3-4) is the same as "a parts" (as recited in the preamble).

b) The phrase: "their shift amount" should be changed to: --a shift mount of the suction nozzles in each group--. For clarification of what being referred as "their" in the claim.

c) The phrase: "the shift mount of the suction nozzles in each group are within an allowable range for simultaneous suction are set different in each of the groups" is not clear as to what being referred as "suction is possible are set in a different group". The use of "suction is set different in each group" is suggested in order to clarify the claimed subject matter.

d) Regarding to "suction nozzles are classified into a specific group in order to suck the parts"(as recited claim 9, lines 2-3). It is not clear whether "suction nozzles" (claim 9, line 2) is the same as "a plurality of suction nozzles" (claim 1, lines 2-3); and "a specific group" is the same as "each group" (as recited in claim 1, line 12). Also noted that it is not clear whether "an allowable number" (claim 9, line 5), "an allowable value" claim 9, lines 6-7) "an allowable range"(claim 1, line 12) are the same. Please clarify.

e) The phrase: "at the suction nozzles classified " lacks proper antecedent basis because it is not known what being claimed as "the suction nozzle classified ". Note that "the suction nozzle classified" should be: – said each group classified—support for this can be found in claim 1, line 10.

f) The scope of claim 10 is not clear because the limitation in this claim is directed to a device i.e., a feature to select a mode of allowable range (claim 10, lines 3-4), and "a feature to set the selected mode in order to classify" (claim 10, lines 5-7), etc, do not recite any positive method steps. The examiner suggests the use of "selecting a feature for"; "setting the shift amount range of ", "classifying the nozzle to form", etc, for clarification of the claimed method steps.

Drawings

8. Figure 14 of the drawings should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to

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avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1, 2, and 10 as understood is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (APA), [see Fig. 14 and the discussion in the specification pages 1-3] in view of JP patent No. 04-64283 to Tokio et al.

APA discloses the electronic parts mounting method comprising: moving a suction section, including a plurality of suction nozzles, to a part supply section in which a plurality of parts are stored so that they can be sucked at the same time (see Specification page 1, lines 11-20), sucking the parts stored in the part supply section onto the plurality of suction nozzles at the same time (see the discussion in page 1, lines 19-21). APA does not disclose exact how the and mounting the sucked parts on a

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board wherein the suction nozzles classified into groups according to their shift amount, the shift amount of the suction nozzles in each group are within an allowable range for simultaneous suction are set different in each group. Tokio et al teach the mounting the sucked parts 14 on a board 22 (see Fig. 1, and the discussion in the abstract lines 11-13), wherein the suction nozzles (mounting heads) being classified into two groups (15, 16) according to their shift amount (= regulate to position), the shift amount of the suction nozzles in each group are within an allowable range for simultaneous suction are set different in each group (see abstract lines 13-21); the shift amount is define by the parts sucked by the nozzles and the suction nozzles as recited in claim 2 (see Fig. 1 and the discussion in the abstract lines 11-13). Therefore, it would have been obvious to one ordinary skill in the art, at the time of the invention to modify the method invention taught by APA by employing the teaching of Tokio et al's classified the nozzles base on their shift amount in order to simultaneously suck the component s and mount them into its position efficiency of the operations would result. (Note that by regulate position the components 14 by the mounting head/nozzle of Tokio et al broadly read on "the shift amount" of the instant claims).

As applied to claim 10, APA teaches a couple of features and their functionally associated there as recited in claim 10 (see Fig. 14 of APA).

11. Claims 9 and 11, as understood are rejected under 35 U.S.C. 103(a) as being unpatentable over APA or Tokio et al as applied above and further in view of Tsubouchi et al (US 5,911,456).

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APA or Tokio et al as applied and relied upon above do not teach detecting of an error of the when the parts suction ratio is less than the allowance range (see claim 9) and that as recited in claim 11. Tsubouchi et al teach the above concept (see Figs. 4-5 and the discussion in the abstract and at col. 4 and 5). Therefore, it would have been obvious to one ordinary skill in the art, at the time of the invention to modify the method invention taught by APA or Tokio et al by employing the teaching of Tsubouchi 's detecting position for simultaneously picking the parts from the supply section and adjusting the suction nozzles in a way so that the pickup mistake can be avoided.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to discover the working range or ratio configurations according to the shift amount and its operatively allowable range, since it has been held that discovering an optimum working range or value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Allowable Subject Matter

12. Claims 3-8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The following limitation of "calculating a position correction value of each suction nozzle section according to the shift amount at each group classified" as recited

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in the claims 3-8, this limitation alone or in combination with other limitations in the claims are not taught or suggested by the prior art references.

Prior Art References

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art references are cited for their teaching of method of mounting components.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Trinh whose telephone number is (703) 305-2887. The examiner can normally be reached on Monday -Thursday 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (703) 308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7307 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



M. Trinh
Patent Examiner Group 3729

mt
May 23, 2003